CEC No. 02-AFC-02

SALTON SEA GEOTHERMAL UNIT 6

Power Plant Project

RESPONSES TO:

ISSUES RAISED DURING THE PRELIMINARY STAFF ASSESSMENT WORKSHOP

Application for Certification (02-AFC-02) for Salton Sea Geothermal Unit 6 Power Plant Project

Submitted by:
CE Obsidian Energy LLC

Submitted to:
California Energy Commission
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Contents

Introduction

During the May 14 and 15 Preliminary Staff Assessment Workshop, the Commission Staff indicated that some additional information was required to complete their analyses for the Final Staff Assessment. The following information is the Applicant's response to these requests.

Air Quality

The Commission Staff and Applicant discussed various air quality issues that will need additional study and review. Responses will be submitted as soon as they are developed. As part of this submittal, the Applicant is responding to the potential source of H_2S emission offsets.

Response:

The Applicant proposes to use the Leathers Geothermal Power Plant as the source of hydrogen sulfide (H_2S) offsets. The Leathers facility is a base-loaded power plant that submits monthly analyses of its H_2S emission. These emissions from the non-condensable gas stream are routed to the Leathers' cooling tower. Revised Table G-41 (submitted as part of the CEC Data Response No. 8) shows an annual average of 69.1 tons of H_2S emissions from the non-condensable gas stream. The Applicant proposes to control these H_2S emissions with a biofilter system. This system will take the non-condensable exhaust gas and control H_2S emissions with 90 percent efficiency prior to being released at the cooling tower.

The biofilter system has been used at the Salton Sea geothermal facilities since the early 1990s and is proven to be a dependable and reliable control technology. Biofiltration utilizes naturally occurring bacteria (thiobacilli) to oxidize the H_2S to elemental sulfur (S) or sulfate ion (SO_4). The oxidation of H_2S by this organism occurs in a stepwise fashion described by the following reactions:

(1) $H_2S + ½\ O_2 \rightarrow S + H_2O$
(2) $S + 3/2\ O_2 + H_2O \rightarrow SO_4$ ion (regeneration)

In this abatement process, the vent stream consisting primarily of CO_2 with low concentrations of H_2S are mixed with an adequate amount of air, at 25-40 C. This high humidity gas stream is contacted with the thiobacilli bacteria to allow the above reactions to proceed. The water acts as a wetting agent and also removes the oxidation products from the process to allow these organisms to thrive and maintain their abatement efficiency. Various substrates may be used, ranging from soil to plastic packing, onto which the organisms adhere, thus providing the reaction sites necessary to achieve high efficiency abatement.

In order to sustain the organism's growth, nutrient requirements for nitrogen, phosphorus, potassium, and carbon must be met. The vent stream contains all of the required carbon in the form of CO_2 along with trace amounts off ammonia to provide the nitrogen. Additional nutrients will be added as required.

With a control efficiency of 90 percent, 62.2 tons of H_2S would be available to be used as offsets. The amount of H_2S emitted is as follows:

		(tons/yr)	Offset Ratio	Offsets Needed (tons/yr)
H_2S	Operating	13.7	1.2	16.5
H_2S	Temporary	0.9	1.0	0.9
			Total:	17.4

This means that the Applicant will have a surplus of H_2S offsets due to the control of emissions at the Leathers facility in the amount of 44.8 tons.

The Applicant proposes to bank these emissions with the Imperial County APCD to be available for future projects. An Authority to Construct application for the Leathers facility will be submitted upon approval of the Salton Sea Unit 6 Project and the biofilter system will be placed in operation upon commencement of operations at the SSU6 Project.

Cultural Resources

During the PSA Workshop, Commission Staff asked if the Applicant agreed with the survey areas, transmission line corridor, findings and conclusions contained in the Imperial Irrigation District's Cultural Resource Assessment of the L-Line Transmission Line Route on the Bureau of Land Management land.

Response:

The Applicant has reviewed the Imperial Irrigation District's Cultural Resource Assessment of the L-Line Transmission Line Route on the Bureau of Land Management land and agrees with the areas surveyed, transmission line corridor, findings, and conclusions.

General Conditions

The Commission Staff and Applicant discussed the need for the Vulnerability Assessment required in General Condition COM-8. During this discussion, the Applicant indicated that they were not aware of the guidance documentation for this assessment and would review and comment on the applicability of this guidance.

Response:

The Applicant has reviewed the Department of Justice guidance document referenced by staff in proposed COM-8 and concluded that it does not meet the identified criteria for a Vulnerability Assessment.

Soil and Water Resources

The Commission Staff requested a summary of the Applicant's conservation rate plan to mitigate water resource impacts of water evaporation from the service water storage pond.

Response:

The Applicant believes that mitigation for the 20 acre-feet/year (AFY) of evaporative loss from an unenclosed service water storage pond is embedded in its Water Supply Agreement with the IID (see Attachment 1 in AFC section 5.4), which requires payment of a conservation rate to the IID for water usage in excess of the agricultural use level. The Applicant would propose allowing the IID to charge the Applicant the conservation rate, as defined in the above-referenced Water Supply Agreement, for 20 AFY which would otherwise be billed at the lower rate, thus mitigating the evaporative loss.

Traffic and Transportation

CURE requested verification that it received the revised Traffic and Transportation information submitted in response to the Commission Staff's handout identifying 8 additional items still needing clarification during the February Data Request Workshop.

Response:

This information is being provided herein to ensure that is has been served on all parties associated with this project.

1. AFC Table 5.10-1: Does the LOS column refer to the AADT column or the Peak Hour Traffic column?

Response:

The LOS column refers to the AADT.

2. AFC Table 5.10-3: Do the last three columns refer only to the locations noted in the Location column?

Response:

The last three columns of Table 5.10-3 refer only to the locations noted in the Location column.

3. Data Request Response Set 1, Table 5.10-12R1: row one, last two columns show 8 daily trucks but only 12 daily trips; likewise the row for brine Pond Solids, last two columns show 5 trucks daily but only 8 trips daily; in these cases shouldn't this chart show 16 and 10 trips daily, respectively?

Response:

Attached is a corrected version of Table 5.10-12R2.

4. There is concern about the impact of the 32+ truck trips daily during operations. Is it possible to show peak impacts for local roads and intersections during operations? We're considering adding a condition requiring operations delivery and waste hauling 24 hours a day instead of just 8:00 a.m. - 5:00 p.m.

Response:

As presented in the responses to Data Request Set 1 #92, the Applicant provided revised AFC Tables 5.10-7aR1 and 5.10-8aR1 showing the project's operational impacts on local highways and local roads. For convenience, these tables are presented below. From these revised tables, the traffic impacts of the SSU6 operation will degrade traffic

and transportation in the project for one highway segment from a LOS A to a LOS B (SH-78/86, Center Street/Forrester Road to H Street). As stated in Section 5.10.1.2 of the AFC (page 5.10-4), the County of Imperial General Plan Circulation and Scenic Highway Element sets a standard of LOS C, and as presented in AFC Tables 5.10-7aR1 and 5.10-8aR1, the lowest LOS for any project impacted highway or local road is a LOS B. Therefore, the Applicant does not believe that the additional mitigation is warranted. Furthermore, the monofil that the waste material is being disposed at is not operated on a 24-hour basis and is only open from 6:00 am to 6:00 pm.

Table 5.10-7aR1

Distribution of Plant Operations Related Traffic on Highways – Projected Additional Vehicle trips Per Day

Highway/Roadway	2001 Existing AADT	2001 Existing LOS	2004 Projected ADT[1]	Employee Traffic	Delivery and Haul Traffic[2]	Added Vehicle Increase (%)[3]	Projected Vehicle Trips per Day	Projected LOS
SH-78/86, B Street to Center Street (Forrester Road)	8,100	A	8,343	29	7	3%	8,379	A
SH-78/86, Center Street (Forrester Road) to H Street	13,000	A	13,390	5	1	3%	13,396	B
SH-111/Sinclair Road to SH-115 (East)	7,000	A	7,210	52	12	4%	7,274	A

AADT = Average Annual Daily Traffic
LOS = Level of Service
1 Assume 1% linear growth rate.
2 Includes traffic associated with deliveries to the site and waste hauling from the site. Assume 75% of projected operation traffic on Sinclair route, 25% on Gentry route. See Table 5.10-11R1 and 5.10-12R1.
3 From 2001 data.

Table 5.10-8aR1

Distribution of Plant Operation Related Traffic on Local Roads - Projected Additional Vehicle trips Per Day

Highway/Roadway	2001 Existing AADT	2001 Existing LOS	2004 Projected ADT[3]	Employee Traffic	Delivery and Haul Traffic[7]	Added Vehicle Increase (%)[3]	Projected Vehicle Trips per Day	Projected LOS
Sinclair Road [1]	1160	A	1195	104	24	14%	1323	A
McKendry Road [2]	53	A [4]	55	138	32	342%	225	A
Lindsey Road [2] [5]	823	A [4]	848	0	0	3%	848	A
Eddins Road [1]	1354	A	1395	0	0	3%	1,395	A
Severe Road [2]	52	A [4]	54	0	0	4%	54	A
Boyle Road [6]	100 (est.)	A [4]	103	138	32	179%	273	A
Gentry Road [1]	1,350	A	1391	34	8	6%	1433	A

AADT = Average Annual Daily Traffic
LOS = Level of Service

1 From Imperial County Traffic Count Database
2 New Counts taken on January 2002
3 Assume 1% linear growth rate.
4 According to the Circulation/Open Space Element (Table 4), Level of Service are not applied to residential streets because their primary purpose is to serve abutting lots, not to carry through traffic. Level of service normally applies to roads carrying through traffic between major trip generators and attractors.
5 Segment not a significant access route to project site.
6 Estimated counts approximately double Severe Roads counts, taken on January 2002.
7 Includes traffic associated with deliveries to the site and waste hauling from the site. Assume 75% of projected operation traffic on Sinclair route, 25% on Gentry route. See Table 5.10-11 and 5.10-12.

5. Caltrans is planning the construction of two 4.5 mile sections of 4-lane expressway on SR-111:

- near Brawley: from Worthington Road to Keystone Road; construction would end in fall, 2003;
- and from Fredricks Road on SR-86 to north of Mead road on SR-111; construction start would be Fall, 2003; construction end date is not available.

We would like an explanation of possible conflict with project construction since these Caltrans construction sites are on the project construction truck route. We would look for consideration of these conflicts in the project construction traffic control plan.

Response:

The construction on SR-111 near Brawley will likely be completed prior to commencement of project construction. Therefore, there will be little if any conflict with this construction project and construction. However, the project construction traffic control plan will comply with mitigation measures outlined in Section 8.10.6 of the AFC. This traffic control plan will be developed to address traffic issues during construction along SR-111, as well as all other affected roadways. Appropriate signage, flagpersons, and traffic control measures will be implemented as a minimum for mitigation. All construction traffic for the project will be coordinated with Caltrans and any other agency that may be affected. Specifically, if construction will occur along SR-111 at the above mentioned locations, the resulting construction traffic from these projects will be coordinated with Caltrans and scheduled so that construction conflicts do not occur.

6. Caltrans owns a 240 acre mitigation parcel near Salton Sea, located on Walker Road next to the Salton Sea National Wildlife Refuge, approximately 2 miles west of Pellet Road. Is Caltrans operation or work at this parcel in conflict with project construction?

Response:

No. Caltrans operation or work at this parcel does not appear to be in conflict with Salton Sea project construction. As stated in the Data Adequacy Comments dated September 18, 2002, the project will mainly utilize SR-111, Sinclair Road, Gentry Road, McKendry Road and Boyle Road during the construction and operation period. Other project traffic may utilize SH-86 and Bannister Road to access the site. These roads are able to accommodate traffic for both projects so there are no anticipated conflicts with Caltrans mitigation parcel operation or work.

7. What are the routes that would be taken to the project site by fire and emergency medical vehicles?

Response:

As stated in Section 5.9.1.6.1 of the AFC, fire protection would be provided by the Calipatria Fire Department. From Section 5.9.1.6.1 of the AFC the following discusses the services provided by the CFD.

> "The Calipatria Fire Department is approximately 11 miles from the project site and has 3 paid professional and 13 volunteer firefighters, including 1 chief, 2 captain-firefighter/emergency medical technicians (EMT), 8 firefighter/first responder, and 6 firefighter/EMTs. Services include fire, emergency medial services (EMS), extraction, haz-mat, and search and rescue (California Institute for Rural Health Management [CIRHM], 2002). Average response time is approximately 5 minutes; however, response times are generally faster during daylight hours and longer during nighttime hours because the station is not manned at night. Station equipment includes three engines, water tender, rescue squad, and a chief's vehicle. There are currently no plans for additional stations near the project area (Hall, 2001)."

The route expected to be taken by the CFD to support the SSU6 project for either fire or emergency services would be north on State Highway 111, westbound on Sinclair Road, southbound on Gentry Road, westbound on McKendry Road and southbound to Boyle Road to the project site.

8. The letter to the Imperial Irrigation District (IID) from the Airport Land Use Commission of September 19, 2002 refers to a private airstrip adjacent to the IID transmission lines and the low-level military route under these lines. What are the locations of this airstrip and military route?

Response:

There are actually two private dirt airstrips in the vicinity of the L transmission line. The first is on the west side of Lack road near the intersection of Vail road. The second is one-half mile north of Bannister road on the west side of Baker road. Each strip is approximately 0.5 miles long and 100 feet wide. These airstrips are used almost exclusively by crop dusters. The Applicant has contacted NAF El Centro and requested maps that identify the military routes and will provided this information when received.

Table 5.10-12R2

Daily, Weekly, and Monthly Truck Traffic Data

Delivery and Waste Hauling During Operations

Material(s)	Estimated Quantity	Estimated Frequency	Waste Classification	Trip Type	Truck Capacity*	Number of Trucks (per estimated frequency)	Yearly	Monthly[2]	Weekly[1]	Daily	Number of Trips Daily
Filter cake of brine solids from dewatering process	120 tons	Daily	Non-hazardous	Haul	20 tons	6 per day	1920	160	40	8	16
Sulfur byproduct from H2S abatement system	2.5 tons	Daily	Non-hazardous	Haul	20 tons	1 per day	240	20	5	1	2
Used hydraulic fluids, oils, grease, oily filters	<5 gallons	Daily	Recyclable hazardous	Haul	20 55-gallon drums	1 per day	240	20	5	1	2
Spent lead acid batteries	2 batteries	Yearly	Recyclable hazardous	Haul		1 per year	1	N/A	N/A	N/A	
Laboratory Waste	600 gallons	Yearly	Hazardous	Haul	5,000 gallons	1 per year	1	N/A	N/A	N/A	
Used oil from oil/water separator	100 gallons	Monthly	Recyclable hazardous	Haul	5,000 gallons	1 per month	12	1	N/A	N/A	
Oily rags	55 gallons	Every 2 months	Non-hazardous	Haul	20 55-gallon drums	1 every 2 months	Truck haul not required				
Cooling Tower blowdown	621,000 lbs	Hourly	Non-hazardous	Haul			Truck haul not required				
Clarifier Effluent	9,336,000 lbs	Hourly	Non-hazardous	Haul			Truck haul not required				
Brine Pond	2,700,000 gallons	Yearly	Non-hazardous	Haul			Truck haul not required				
Brine Pond Solids	16,700 tons	Yearly	Hazardous	Haul	20 tons	1114 per year	836	93	24	5	10
Spent activated carbon from benzene abatement	20 tons	Approx. every 3 years	Recyclable	Haul	20 tons	2 every 3 years	0.05	N/A	N/A	N/A	
Scale and cleaning solvents	150,000 cu ft	Every 2-3 years	Hazardous	Haul	1,080 cu ft	139 every 2 years	70	6	2	N/A	
Antifoam	5,000 gallons	Every 4 months	Hazardous	Delivery	5,000 gallons	1 every 4 months	3	N/A	N/A	N/A	
Flocculent	6,000 lbs	Monthly	Hazardous	Delivery	30,000 lbs	1 every month	12	1	N/A	N/A	
Inhibitors	4,000 gallons	Every 2 weeks	Hazardous	Delivery	5,000 gallons	1 every 2 weeks	24	2	0.5	N/A	
32% Hydrochloric Acid	4,000 gallons	Daily	Hazardous	Delivery	5,000 gallons	1 per day	240	20	5	1	2
Cooling Water Treatment Sulfonated Carboxylated Polymer	1,800 gallons	Every 4 months	Hazardous	Delivery	5,000 gallons	1 every 4 months	3	N/A	N/A	N/A	
Bio-detergent	1,500 gallons	Every 4 months	Hazardous	Delivery	5,000 gallons	1 every 4 months	3	N/A	N/A	N/A	
12% Sodium Hydrochlorite	4,000 gallons	Every 4 days	Hazardous	Delivery	5,000 gallons	1 every 4 days	60	5	2	N/A	
Biocide	400 gallons	Every 4 months	Hazardous	Delivery	5,000 gallons	1 every 4 months	3	N/A	N/A	N/A	
Diesel Fuel	1,000 gallons	Every 7 months	Hazardous	Delivery	5,000 gallons	1 every 7 months	2	N/A	N/A	N/A	
Sulfuric Acid 29.5 wt%	60 gallons	Yearly	Hazardous	Delivery	5,000 gallons	1 per year	1	N/A	N/A	N/A	
Various Laboratory Chemicals	<5 lbs	Every 2 weeks	Hazardous	Delivery	30,000 lbs	1 every 2 weeks	24	2	0.5	N/A	
ARI-340 Iron Concentrate Solution	640 gallons	Every 7 months	Hazardous	Delivery	5,000 gallons	1 every 7 months	2	N/A	N/A	N/A	
ARI-350 Chelate Makeup	640 gallons	Every 20 days	Hazardous	Delivery	5,000 gallons	1 every 20 days	12	1	N/A	N/A	
ARI-400 Biochem	85 gallons	Every 6 months	Hazardous	Delivery	5,000 gallons	1 every 6 months	2	N/A	N/A	N/A	
ARI-600 Surfactant	85 gallons	Every 6 months	Hazardous	Delivery	5,000 gallons	1 every 6 months	2	N/A	N/A	N/A	
45 wt% Potassium Hydroxide Solution	640 gallons	Every 45 days	Hazardous	Delivery	5,000 gallons	1 every 45 days	6	0.5	N/A	N/A	
TOTALS							**3998**	**332**	**84**	**16**	**32**

* Truck Capacity is Estimated based on previous project information
1 Assume 5 days per week.
2 Assume 4 days per month.
N/A Negligible truck data. Number of trucks is < 0.5. Traffic will not be affected.

Visual Resources

The Commission Staff suggested that if the Applicant had specific comments on the Visual Resources analysis, it should file them with the Commission.

Response:

Below are the Applicant's comments on the Visual Resources analysis of the SSU6 PSA.

Page 4.12-2, Impact Duration, 1st Paragraph
The discussion of impact duration omits citation of academic materials, empirical research, or adopted CEC policies that provides a basis for the impact thresholds that are asserted.

Page 4.12-6, Electrical Transmission Interconnection, 1st Paragraph
The design of the "L" line has been changed, and it will now be a single circuit line between the power plant and the proposed IID Bannister switching station. This information was communicated to Robert Worl, CEC Project Manger, in a letter from Bernard Raemy, CE Obsidian Energy LLC SSU6 Project Manager dated January 7, 2003.

Page 4.12-7, Regional Landscape, 2nd Paragraph
The characterization of the project area landscape presented in this paragraph is erroneous in that it is based on out of date information. This paragraph appears to rely heavily on the Salton Sea Anomaly Master Environmental Impact Report as the basis for its assessment. Since the time that report was prepared in 1981, major changes have occurred in the area, and these changes are not noted and accounted for in the characterization of this area's existing visual conditions. For example, Obsidian Butte, which is referred to as a scenic feature, has been substantially altered and is no longer a major feature in the landscape and now has relatively little scenic value. As indicated in a letter to the CEC dated May 5, 2003 from Jurg Heuberger, Imperial County Planning Director, there are now ten existing power plants in the vicinity of the SSU6 project site.

Page 4.12-7&8, Project Viewshed, 1st Paragraph
This paragraph makes a mention of project visibility "from the trail up Rock Hill and Obsidian Butte". The reference to a trail on Obsidian Butte appears to have been made in error. A recent visit to Obsidian Butte revealed that much of the butte has been removed, and that there are no trails or other visitor facilities on this site.

Page 4.12-8, Immediate Project Vicinity, 2nd Paragraph
This paragraph mentions "…a residence approximately three-quarters of a mile to the northeast within the Refuge Headquarters…". This statement omits the fact that this residence is located behind a thick mass of vegetation that completely screens views toward the project site from the residence and the area around it.

Page 4.12-8, KOP 1 – Entrance to Sonny Bono Salton Sea National Wildlife Refuge, 1st Paragraph
The characterization of this view omits the fact that it is a "worst case" view from this area. Much of the area along the south side of the access road and parking lot is lined with vegetation that screens views toward the project site. The photo used to illustrate this KOP represents the view at a point where there is a break in this vegetation.

Page 4.12-9, KOP 1 – Entrance to Sonny Bono Salton Sea National Wildlife Refuge, Viewer Concern, 1st Paragraph
This analysis omits any evidence that supports a conclusion that the viewer concern of visitors to the Refuge and agricultural workers would be "moderate".

Page 4.12-9, KOP 1 – Entrance to Sonny Bono Salton Sea National Wildlife Refuge, Viewer Exposure, 1st Paragraph
This analysis omits information that provides a basis for understanding the implications of the reference to "12,000 to 18,000 visitors to the Refuge during the past two years". The source of this figure is not noted, and no indication is given as to whether this figure represent the cumulative total for the two year period, or is the number of visitors per year. In addition, there is no indication whether this figure reflects the numbers of people who visit the reserve in general, or more specifically the numbers who come to the site at Sinclair and Gentry Roads. There is no discussion of the activity patterns of the visitors to this site, e.g., what their objectives in visiting the site are, what their primary activities are, and where they spend their time.

Page 4.12-9, KOP 1 – Entrance to Sonny Bono Salton Sea National Wildlife Refuge, Overall Visual Sensitivity, 1st Paragraph
In light of the existing visual conditions in this area, and the questions about Staff's inadequately explained assertions about levels of concern and numbers of visitors, Staff's assessment that overall visual sensitivity is moderate to high has not been substantiated.

Page 4.12-9, KOP 2 – Red Island Recreation Area, Visual Quality, 1st Paragraph
This paragraph omits an explanation of basis for rating the visual quality of this view as "high". In light of the low level of visual integrity of the area in the

foreground of the view, a scenic quality rating that is less than "high' would seem warranted.

Page 4.12-9, KOP 2 – Red Island Recreation Area, Overall Visual Sensitivity, 1st Paragraph
In light of the fact that the existing view, particularly the foreground is less than intact, and that the view already includes operating geothermal plants in the same general area where the proposed project would be located, the finding of a moderate to high level of visual sensitivity appears to be unsupported.

Page 4.12-10, KOP 3 – Residence on Lack Road, all subsections and paragraphs in this section
The text does not provide an indication of where on Lack Road the residence referred to is located. On AFC Figure 5.12-1, the dot and arrow indicating the location of this viewpoint show it at the intersection of Lack Road and Bowles Road. A recent field visit to the corner of Lack Road and Bowles Road revealed that there is a structure at this location, and although it may have been originally built as a residence, it is not now used for human habitation. This structure now appears to be used for storage, and the structure, attached sheds and the land around it now function as a staging area for agricultural activities on surrounding fields. Each of the subsections of the analysis for this viewpoint need to be revised to reflect the fact that the only viewers at this location would be the occupants of the very small number of vehicles that use this road and people who are actively engaged in agricultural production activities in the surrounding fields.

Page 4.12-10 & 11, KOP 4 – Top of Rock Hill, Visual Quality, 1st paragraph
The reference in this paragraph to a statement made in the 1981 Salton MEIR omits the information required to place any references to this document's observations and findings in contemporary context. The issues raised related to Page 4.12-7, Regional Landscape, 2nd Paragraph need to be addressed here as well in order to provide an accurate characterization of the landscape seen from this area as it now exists.

This paragraph omits a discussion that explains how a view of a landscape which is to a large degree artificial, and includes at a number of operating geothermal facilities can have a scenic quality rating of "high" on the Buhyoff visual quality rating scale. This statement is in conflict with statements made about the area's visual quality in the Cumulative Impacts section that appears later in this chapter.

Page 4.12-11, KOP 4 – Top of Rock Hill, Viewer Concern, 1st paragraph
This paragraph omits important contextual information about the interpretive sign on which the location of Signal Mountain is identified. It also omits mention of the fact that at the spot on the top of Rock Hill at which the view to the south can be

seen, there is an interpretive panel which highlights the area's geothermal resources and calls attention to the geothermal power plants which are currently prominent features in this view.

The assertions that "Viewers would also anticipate having an unobstructed view of Signal Mountain" and "Any additional viewer disruption of the surrounding mountains" omit information that would provide empirical support for these statements.

Page 4.12-11, KOP 4 – Top of Rock Hill, Overall Visual Sensitivity, 1st paragraph
In light of the incomplete and questionable characterization of the visual quality of this view and the unsubstantiated assumptions about the high level of sensitivity of views toward the south and the project site, the conclusion that the sensitivity of the view toward the project site is "moderate to high" has not been substantiated.

Page 4.12-11, KOP 5 – L-Line Interconnection Transmission Line, 1st paragraph
A reference is made here to "two residences near this portion of SR-86" and a statement is made that the view from this KOP is also representative of views from these residences. However, the section does not identify where these residences are in relationship to the viewpoint, either in terms of direction or distance, and does not provide enough contextual information to determine how similar the view from this KOP might be to views from these residences.

Page 4.12-13, KOP 6 – IID Midway Interconnection Transmission Line, Viewer Exposure, 1st paragraph
The reference to the Santa Rosa Mountains in this paragraph is probably intended to be a reference to the Chocolate Mountains.

Page 4.12-14, Impacts of Power Plant Structures, KOP 1- Entrance to national wildlife refuge, 1st paragraph
Reference is made here to Staff's Visual Resources Figure 1C but the text omits an adequate explanation of where this view was taken, what it represents, the rationale for its appearance here, and the role it plays in this analysis. It appears that it is Staff's intent to prepare a visual simulation using this photo as a base, and to revise the analysis of visual impacts from this viewpoint based on use of the new simulation . If this change is made, Staff must provide a full explanation for the change, and why the new view is more representative than the view currently being used.

Pages 4.12-16, Impacts of Power Plant Structures, KOP 3- Residence on Lack Road
The name assigned to this KOP needs to be changed to "Viewpoint on Lack Road at Bowles Road" to reflect the fact that the nearby structure is being used as a utility building, not a residence. The entire analysis needs to be revised to be consistent

with the reality that there are no residential viewers at this intersection. This analysis also needs to be modified to take into account the fact that although the simulation used as the basis for the analysis depicts a double circuit transmission line, the design of the project has been changed, and that this line will now be a single circuit facility, similar in appearance to the transmission lines depicted in the Applicant's Visual Resources Figures 5b and 6b. In view of the changed design of the project and the fact that there are no residential viewers at this location, that any viewers in the area are likely to be those engaged in agricultural activities and that locations of transmission poles can be adjusted to avoid locations directly in front of any residences the transmission line might pass, the finding that the proposed transmission line "would cause an adverse and significant impact" would appear to have been made in error.

Page 4.12-17, Impacts of Power Plant Structures, KOP 4- View from Rock Hill, Visual Contrast, 1st paragraph

The text incorrectly characterizes the color of the project facilities as "tan". The simulation depicts project features which are more taupe in color, and which thus present only a moderate degree of visual contrast with the colors of the soil, agricultural crops, and far distant mountains. Because the project facilities are not seen against the backdrop of the Salton Sea, the reference to the relationship of the color of the project features to the color of this water body is not germane to the analysis.

Page 4.12-17, Impacts of Power Plant Structures, KOP 4- View from Rock Hill, View Disruption, 1st paragraph

The analysis presented omits mention of the fact that any disruption of views toward the Cargo Muchacho Mountains and Signal Peak in particular would be very low. This omission has a bearing on and calls into question the conclusion that the overall view disruption would be "moderate" rather than "low".

Page 4.12-17, Impacts of Power Plant Structures, KOP 4- View from Rock Hill, Overall Visual Change, 1st paragraph

In light of the project's low to moderate level of visual contrast and low level of view disruption, the finding that the overall visual change brought about by the project would be moderate to high appears to have been made in error. A finding of at most a moderate level of overall visual change appears to be better supported by the facts. A dimension of the reality of the view from this area that has been omitted from this analysis, but which must be taken into account in evaluating the overall level of change is the existing *character* of the landscape that is seen in this view. As pointed out in the Applicant's response to Staff's Data Request #137 (presented in Data Request Response Set 4), the existing character of the view is one that has been highly modified to accommodate intensive, large-scale irrigated agriculture, as well as electric power production based on exploitation of the area's geothermal

resources. Geothermal power plants are visually prominent and well-established elements of this view. This landscape's role as a center for geothermal development is highlighted by an interpretive panel located right at this viewpoint. The project will not be an entirely new or alien feature in this view, but in fact will be consistent with the view's existing character and with the landscape features that are highlighted on the interpretive panel.

Page 4.12-18, Impacts of Power Plant Structures, KOP 4- View from Rock Hill, Visual Impact Significance
In light of this view's moderate level of sensitivity and the at-most moderate level of visual change, the finding that the project would cause an adverse and significant impact on this view appears to have been made in error.

Page 4.12-19, KOP 6 - Transmission Line Crossing of SR 111, View Disruption
The reference to the Santa Rosa Mountains is probably intended to be reference to the Chocolate Mountains.

Page 4.12-19, Linear Facilities, Interconnection transmission lines
The reference to a double circuit line that will extend 16 miles and cross SR-86 should be changed to reflect the current plans for this to be a single circuit line.

Page 4.12-21, Lighting, 1st paragraph
The assertion that night lighting in the area is relatively minimal is not accurate. Recent nighttime observations in the area reveal that the existing geothermal facilities in the area are brightly lit, giving this area a nighttime appearance that is reminiscent of that of a major industrial complex.

Page 4.12-25, Visible Plumes, Dilution Water Heater Visible Plume Modeling Analysis, 2nd paragraph
This paragraph makes reference to a simulation of a view containing a 10th percentile dilution water heater plume that is presented as Visual Resources Figure 7. This Figure does not appear to have been provided. Is the simulated plume presented on Visual resources Figure 4B the plume simulation referred to here? If Figure 4B is a representation of the 10th percentile plume, there is a key point that has been omitted from the discussion, and that is a clear statement that highlights the fact that 90% of the time, any plumes associated with the dilution water heater would be smaller than the one depicted, and that most of the time, the plume would be considerably smaller than the one shown. Review of this image indicates that if this is a representation of the 10th percentile dilution water cooler plume, it would be erroneous to conclude that such a plume would interfere with or otherwise disrupt views toward Signal Peak from Rock Hill or that it would have a substantial adverse effect on views from Rock Hill toward the mountains to the southwest.

Page 4.12-25, Visible Plumes, Dilution Water Heater Visible Plume Modeling Analysis, last paragraph

In light of the at-most moderate level of visual change that would be brought about the project's facilities and plumes, and the fact that these changes would be consistent with features that now exist in this view, and which are the focus of one of the interpretive panels at the summit of Rock Hill, the finding that the project would cause high "viewer disruption" from this view appears to have been made in error.

Page 4.12-26, Consideration of Impacts in Relation to CEQA Significance Criteria, Would the project have a substantial adverse effect on a scenic vista?, 1st paragraph

The finding that the project's visual impact on vista views from Rock Hill appears to have been made in error. Review of the plume data and the simulation presented as Figure 4b suggests that under most circumstances, the plume associated with the project's dilution water heater will not interfere with views toward Signal Mountain. Review of the plume data and the figure submitted as Figure DR 1371b by the Applicant in Data Request Response Set 4 suggests that the plumes associated with the cooling towers will have at most a moderate effect on views of Signal Mountain. Staff has not provided the evidence in its analysis that establishes that Signal Mountain is such an important and sensitive feature from views at Rock Hill that a moderate or even high levels of disruption of this view feature by the project would constitute a significant adverse impact.

Page 4.12-26, Consideration of Impacts in Relation to CEQA Significance Criteria, Would the project have a substantial adverse effect on a scenic vista?, 2nd paragraph

This paragraph asserts that there would be significant impacts on panoramic views from residences and from lightly traveled rural roads in the vicinity. There is no analysis in either this paragraph or in preceding sections of the visual resources analysis that provides the supporting evidence for this claim.

Page 4.12-26, Consideration of Impacts in Relation to CEQA Significance Criteria, Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?, 1st paragraph

This paragraph erroneously makes reference to impacts that are potentially visible from a highway that at one time was declared eligible for state scenic highway. The CEQA questions relative to impact to scenic highways apply only to changes that would occur to resources *witihin* a highway that currently has state scenic highway status.

Pages 4.12-26 & 4.12-27, Consideration of Impacts in Relation to CEQA Significance Criteria, Would the project substantially degrade the existing visual character or quality of the site and its surroundings?, 1st paragraph
This paragraph asserts that visual changes resulting from the project would range from low to moderate to high depending on viewpoint location, and that viewers on local roadways and at nearby residences would experience a substantial level of visual degradation resulting in a significant visual impact under this criterion. No evidence is provided here or elsewhere in the analysis to support this finding.

Page 4.12-27, Cumulative Impacts, 3rd paragraph
This paragraph includes a statement that suggests that the Setting section of the analysis discusses the fact that there are nine geothermal plants in a two mile radius of the project site and that incremental introduction of visually degrading elements has led to substantial diminishment of the quality and sensitivity of the views. This statement about what is included in the Setting section appears to have been made in error. A close review of the Setting section reveals that it does not include an analysis that is consistent with the assessment described here.

Page 4.12-27, Cumulative Impacts, 4th paragraph
Analyses of cumulative impacts usually focus on the relationship of the project's impacts to the impacts likely to be associated with other projects that have been approved, or which are being planned in the project area. This analysis acknowledges that there are no other planned projects in the project area that would be likely to contribute to cumulative visual impacts, so the findings are based entirely on assertions about the relationship of the project's effects to those of other facilities that now exist in the project area. The analysis presented omits an assessment that applies CEQA definitions of cumulative impact to define which of the existing alterations of the project setting it is appropriate to consider in evaluating any cumulative effects that the project would have. Furthermore, the specific effects of those projects it is legitimate to consider have not been documented. Although this paragraph asserts that the proposed project would have "cumulatively considerable" and thus significant cumulative impacts on views from KOPs 1, 3, and 4, when considered in the context of the effects of these unidentified previous projects, this section of the analysis omits the specific evidence and analysis that would be required to demonstrate how this would be the case.

Page 4.12-27, Cumulative Impacts, 5th paragraph
This paragraph asserts that the project's night lighting would potentially contribute to creation of a significant cumulative visual impact. As in the preceding paragraph, no evidence and analysis is presented to support this claim. As noted earlier in this review, Staff's analysis does not include an accurate assessment of what the existing night lighting environment in the project area is, and absent this, there is no point of

departure for assessing how the highly controlled lighting planned at the proposed project would affect overall nighttime visual conditions.

Page 4.12-27, Cumulative Impacts, 6th paragraph
This paragraph makes an assertion about the creation of significant cumulative impacts associated with project related plumes that would affect the views of residents, motorists, and visitors to the Wildlife Refuge. No analyses are provided here or in any other portion of the Visual Resources analysis that documents how project-related plumes in views from residences or roads would combine with other existing plumes to create significant cumulative visual impacts. The analysis has not presented the data that makes the case that the project plumes would have a significant impact on views from Rock Hill and has not demonstrated how project-related plumes would combine with other existing plumes to create a cumulative impact.

Page 4.12-28, Environmental Justice, 2nd paragraph
There is an assertion here that there are residences located within two and three miles from the project site from which the project structures and plumes would be visible. This section and this chapter do not include an analysis that identifies residences within a three mile radius of the project, documents the existing views that are available from them, and assesses how, specifically, those views would be altered by the presence of the proposed project. Without this kind of analysis, there is no basis for the paragraph's assertion that the project's visual impacts on views from residences in the area would be significant.

Page 4.12-29, Compliance With Laws, Ordinances, Regulations, and Standards, Federal, 1st paragraph
Staff makes the assertion that the project will not be consistent with BLM aesthetic objectives because one of the transmission towers will be located across the street from a residence. Staff does not identify the location of the residence being referred to, so there is no way of establishing whether the transmission line would be on BLM administered lands at this location, and thus there is no way to establish whether the BLM aesthetic objectives would be applicable. In any case, the locations of the individual towers can be adjusted in final project design to avoid placement directly in front of or across the street from residences.

Page 4.12-29, Compliance With Laws, Ordinances, Regulations, and Standards, State
As indicated in the response presented in relationship to Page 4.12-26, Consideration of Impacts in Relation to CEQA Significance Criteria, Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?, first paragraph,

the reference to State Route 111's *eligibility* for State Scenic Highway designation is not germane.

Page 4.12-30, Visual Resources Table 7, Imperial County General Plan Land Use Element Goal 3
The "Basis for Consistency" column omits the evidence and analysis that would be required to demonstrate that the project would be in conflict with this policy.

Page 4.12-30, Visual Resources Table 7, Imperial County General Plan Land Use Element Objective 3.4
The "Basis for Consistency "column omits the evidence and analysis that would be required to demonstrate that the project would be in conflict with this objective.

Page 4.12-32, Visual Resources Table 7, Imperial County General Plan Geothermal and Transmission Element, Policy G
The statement about the simulation of the transmission line at KOP 3 depicting a transmission tower in close proximity to a residence on Lack Road is untrue because there is no residence at this location. In any areas where the transmission line does pass in proximity to scattered rural residences, adjustments can be made in the final project design to assure that transmission towers are not sited directly in front of residences. Reference is made to a proposed Condition of Certification 6 which would require that transmission towers not be constructed in close proximity to residences. However, Condition 6 addresses a different issue, and the Conditions of Certification include no provisions that relate to placement of transmission towers.

Page 4.12-33, Additional Mitigation Proposed by Staff, Power Plant, 1st paragraph
Staff has failed to provide the analysis that convincingly supports the findings of significant impact that would require imposition of Conditions of Certification VIS-3, VIS-5, and VIS-6.

Page 4.12-34, Mitigation of Impacts in Relation to CEQA Significance Criteria
As indicated in the responses to Staff's conclusions on pages 4.12-26 and 4.12-27 about the project's relationship to the CEQA questions for evaluating the significance of project aesthetic impacts, Staff has reached erroneous conclusions and/or has not provided the analysis required to make a valid case. As a consequence, Staff has not established a basis for imposing mitigation measures in order to bring the project into compliance with the CEQA criteria.

Page 4.12-34, Mitigation of Cumulative Impacts
As indicated in the responses to Staff's conclusions on pages 4.12-27 and 4.12.-28 about the project's cumulative aesthetic impacts, Staff has reached erroneous conclusions and/or has not provided the analysis required to make a valid case. As

a consequence, Staff has not established a basis for imposing mitigation measures to reduce cumulative impacts.

Page 4.12-34, Conclusions and Recommendations
Staff's supposition that the proposed Conditions of Certification are necessary to prevent the project from creating significant impacts is erroneous and not supported by the analysis presented.

Page 4.12-36, Proposed Conditions of Certification, VIS-3
Significant impacts that require this mitigation measure have not been demonstrated, and the nexus between this measure and any putative impacts has not been established. This Condition includes a five year deadline for the growth of plantings to achieve a specified level of screening. No basis for this threshold has been established in the research literature, professional methods, CEQA policy, or adopted CEC policy.

Page 4.12-38, Proposed Conditions of Certification, VIS-5
Significant impacts that require this mitigation measure have not been demonstrated.

Page 4.12-38, Proposed Conditions of Certification, VIS-6
Significant impacts that require this mitigation measure have not been demonstrated.

Appendix 1, Salton Sea Power Plant Project Visual Resources Staff Assessment – Summary of Analysis

Many of the cells of this summary table include errors and omissions that are the same as or related to those identified for the sections of the analysis that correspond to each of the Key Observation Points summarized on this table.

Waste Management

During the PSA Workshop, the Commission Staff requested clarification regarding issues raised by the Department of Toxic Substance Control's (DTSC) letter reviewing the SSU6 project's Environmental Site Assessment (ESA) Phase I analysis (submitted at Appendix K of the AFC) and the ESA's recommendations.

Response:

The Commission Staff and the DTSC raise several issues regarding the ESA prepared for the project. These issues were the suspicion that the concrete pad on the project site was used as a herbicide/pesticide mixing and storage area, evidence of recent burning on the project site, the potential of hazardous materials releases from existing geothermal power plants impacting the project site (including surface and ground waters), and possible impacts from geothermal wells explorations conducted in southeast and southwest corners of the project parcel.

The Applicant has contacted an individual with historic knowledge of the placement of the concrete pad on the project site. This contact is memorialized in Attachment PSA-WM-1 and indicates that the concrete pad was placed by Magma Power Company in the early 1990s. Magma Power Company allowed Brookhaven National Laboratory to conduct experiments on the site using geothermal resources to test metallics for anti-corrosion and scaling tendencies for possible use in construction of heat-exchangers. The testing occurred over about a six-month period, was inconclusive, and was discontinued shortly thereafter.

The recent evidence of burning on the project site is not uncommon in the Imperial Valley and is reflective of current agricultural practices in many areas of California. Agricultural wastes (harvested row crops and other agricultural biomass) are routinely disposed of through controlled burning, and agricultural wastes may include some non-agricultural wastes like plastic sheeting material used for some row crops. Impacts associated with this practice are not expected to result in concentrations of hazardous chemicals in the soils in sufficient concentrations to exceed state or federal response guidelines.

Regarding the potential for hazardous materials releases from the existing geothermal power plants and well pads impacting the project site, ground or surface water, the existing geothermal plants are hydraulically cross-gradient and approximately ¾ mile away from the SSU6 project site. The Phase I concludes "it would be unlikely that spills at the existing facilities would adversely affect soil and

groundwater conditions at the SSU6 site."[1] Furthermore, the geothermal wells identified in the ESA that are on the project parcel are located in the southeast and southwest corners of the parcel. In reviewing AFC Figure 3.1-4 with Figure 2 of the ESA (Appendix K of the AFC), the project will not impact the areas around these existing well pads, and any potentially contamination soils would not be disturbed.

[1] Phase I Environmental Site Assessment, Salton Sea Unit 6, Imperial County, URS Corp. January 29, 2002.

ATTACHMENT

ATTACHMENT PSA-WM-1
WASTE MANAGEMENT CONTACT REPORT

TELEPHONE CONVERSATION RECORD

Call To: John Featherstone **Phone No.:** 760-348-4290

Date: 6/4/03 **Time:** 3:30 p.m.

Call From: Vince Signorotti

Message Taken By: Vince Signorotti

Subject: Concrete Slab

In the early 1990's, Magma Power Company allowed Brookhaven National Laboratory to conduct experiments on the site using geothermal resources to test metallics for anti-corrosion and scaling tendencies for possible use in construction of heat-exchangers. The testing occurred over about a six-month period, was inconclusive, and was discontinued shortly thereafter.